

# Energy Meter ET112 manual



## 1. Introduction and usage

This document is the manual for the single phase max 100 A per phase Energy Meter.

The Energy Meter can be used for four things:

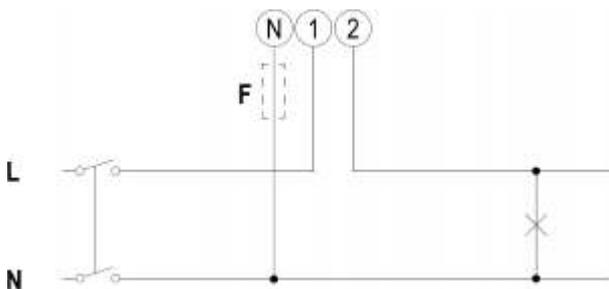
1. Grid meter, and used as control input for an [ESS System \(/live/assistants:ess-assistant\)](/live/assistants:ess-assistant) (1).
2. Measure the output of a PV Inverter
3. Measure the output of a AC Genset
4. (deprecated) ~~Grid meter, used as control input for a Hub 4 system (/live/system-integration:hub4-grid-parallel)~~

The meter is connected to the Color Control GX. There are two options in its wiring:

1. Direct connection, either using the RS485 to USB interface with 1.8m cable length, or the 5.0m cable.
2. Wireless connection via Zigbee

The REL300100000 is the ET112-DIN.AV01.X.S1.X from Carlo Gavazzi. Other ET112 models from Carlo Gavazzi can also be used, as the communication is the same. For example the Note that this model is not stocked by Victron Energy, we recommend to purchase it locally.

## 2. AC Wiring



The diagram shows the wiring when used as a grid meter.

## 3. Connection to CCGX

### Option A: wireless Zigbee connection

#### Step 1.

Connect the Zigbee to USB converter to the CCGX using the supplied USB cable. A few seconds after connecting, the active LED should be on and the TX/RX LED should be blinking (the converter takes its power from the CCGX, so the CCGX needs to be switched on as well).



[\(/live/\\_detail/system\\_integration:zigbeecoordinator.png?id=energy-meters%3Aet112\)](#)

## Step 2.

Connect the Zigbee to RS485 converter to the ET112 energy meter:

Zigbee Converter	Energy meter
GND	Terminal 6
A	Terminal 4
B	Terminal 5

Make sure only one Zigbee device is powered up right now: the Zigbee to USB converter connected to the CCGX. Power down all others. *If you don't do this, the Zigbee to RS485 converter may be connected permanently to another Zigbee device.*

## Step 4.

Connect the 12V DC power supply to the Zigbee to RS485 converter. When the power is switched on, check the LEDs again.

## Option B: Wired connection to CCGX

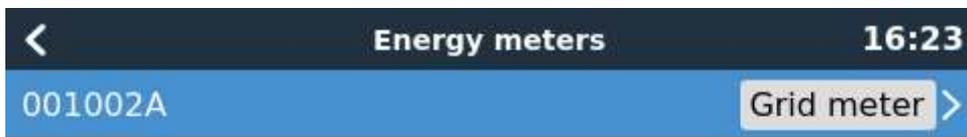
Connect the Energy Meter to the CCGX using the USB to RS485 cable. The RS485 to USB interface cable between the CCGX and the Energy Meter can be extended up to 100 meters; make sure that the extensions of the Data+ (orange) and Data- (yellow) wires form a twisted pair.

RS485 Converter	Energy meter
Yellow (Data-)	Terminal 5
Orange (Data+)	Terminal 4
Black (GND)	Terminal 6

The red, green and brown wire coming out of the USB to RS485 cable are not used.

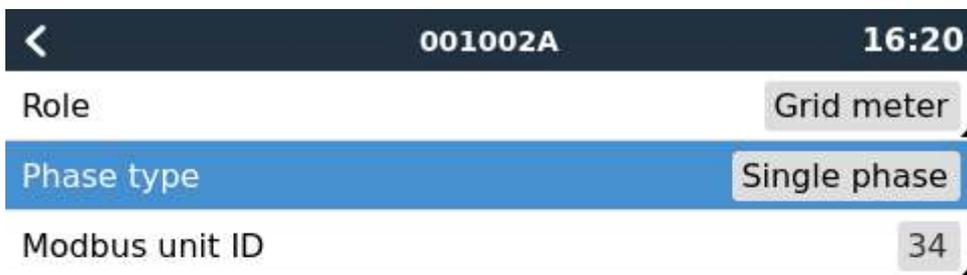
## 3. Configuration

After proper connection and powering up, the meter will be visible on the CCGX in the Settings → Energy Meters menu:



The menu lists every meter found. And in the gray box at the right side it shows the configured function.

After selecting a meter, see its detailed settings:



## 4. Multiple Energy Meters in one system

To connect multiple Energy Meters, wire each meter to a separate RS485-USB converter. Which are then each plugged into a separate USB socket on the CCGX.

## DISQUS



Join the discussion...



**Stig Kristiansen** • 4 days ago

Is this meter not called EM112, as ET112 is not to be found on the Carlo Gavazzi WEB ??

^ | ▾ • Reply • Share ›



**mpvader** Mod → Stig Kristiansen • 4 days ago

Hi Stig, no its not. The EM112 has a display. The ET112 has not. Matthijs

^ | ▾ • Reply • Share ›

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215 comments • a year ago•

**epicycler** — thanks. I understand. I thought it was worth asking before I modified my wiring - I have 12v panels in parallel. From old install with failed

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282 comments • 3 months ago•

**Eyob Birhanu** — VERY URGENT!Dear Johannes,MatthijsThank you for your reply. Based on your suggestion I made the following changes

**Parallel and three phase VE.Bus systems**

18 comments • 8 months ago•

**Johannes Boonstra** — Yes, thats correct. The phase-masters are indicating thier function and the slave indicate by flasing thy are in slave-mode

**Victron & BYD batteries**

45 comments • 4 months ago•

**Teun Lassche** — Hello Jordi,Glad to hear that!